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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,715	02/01/2001	Mani S. Abrol	1220335-991180	7897

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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/775,715	Applicant(s) ABROL ET AL.	
	Examiner Chongshan Chen	Art Unit 2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-26, received on February 19, 2003, have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li [Pub. No.: US 2002/0099700 A1] in view of Dutta [6,480,837 B1].

As per claim 1, Li discloses a system for user behavior based ranking of a document, comprising:

means for determining a feature vector associated with a document, the feature vector comprising weights for certain features that appear in the document (Li, page 6, [0067], [0068], "... rank extracted documents based on a vector model ...").

Li does not explicitly disclose means for modifying the feature vector for the document based on user actions captured during a search session so that the document is more highly ranked in response to the user actions. Dutta discloses means for modifying the feature vector for the document based on user actions captured during a search session so that the document is more highly ranked in response to the user actions (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line

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56, "rank search results according to the popularity of the site. The Direct Hit search engine anonymously monitors which web sites Internet searchers select from the search results list, how much time the searchers spend at these sites and other metrics. The sites that are selected by searchers are boosted in their ranking, while the sites that are consistently ignored by searchers are penalized in their rankings ...the search results are ordered according to the popularity weight with each file ..."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Dutta with Li in order to rank search results using a popularity weighting.

As per claim 2, Li and Dutta teach all the claimed subject matters as discussed in claim 1, and further disclose capturing user actions in response to a list of documents produced in response to a query wherein the user actions include selecting a document from the list of documents (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

As per claim 3, Li and Dutta teach all the claimed subject matters as discussed in claim 2, and further disclose adjusting the weights of the terms in the feature vector that match terms in a query that produced the list of documents so that the ranking of the document is higher in response to the adjustment of the weights (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

Claims 4-6 are rejected on grounds corresponding to the reasons given above for claims 1-3.

As per claim 7, Li discloses a system for user behavior based searching of a document based on a query having one or more query terms, comprising:

means for determining a feature vector associated with a document, the feature vector comprising weights for certain terms that appear in the document (Li, page 6, [0067], [0068], "...rank extracted documents based on a vector model ...").

Li does not explicitly disclose means for modifying the feature vector for the document based on user actions captured during a query of the document so that the document is more highly ranked in response to the user actions; and means for returning the same document to another user with the same query at a higher ranking due to the modified feature vector. Dutta discloses means for modifying the feature vector for the document based on user actions captured during a query of the document so that the document is more highly ranked in response to the user actions; and means for returning the same document to another user with the same query at a higher ranking due to the modified feature vector (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56, "rank search results according to the popularity of the site. The Direct Hit search engine anonymously monitors which web sites Internet searchers select from the search results list, how much time the searchers spend at these sites and other metrics. The sites that are selected by searchers are boosted in their ranking, while the sites that are consistently ignored by searchers are penalized in their rankings ...the search results are ordered according to the popularity weight with each file ..."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Dutta with Li in order to rank search results using a popularity weighting.

As per claim 8, Li and Dutta teach all the claimed subject matters as discussed in claim 7, and further disclose capturing user actions in response to a list of documents produced in

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response to a query wherein the user actions, include selecting, a document from the list of documents (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

As per claim 9, Li and Dutta teach all the claimed subject matters as discussed in claim 8, and further disclose adjusting the frequency values of the terms in the feature vector that match terms in a query that produced the list of documents so that the ranking of the document is higher in response to the adjustment of the frequency values (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

Claims 10-12 are rejected on grounds corresponding to the reasons given above for claims 7-9.

As per claim 13, Li discloses a computer implemented method for user behavior based ranking of a document, the method comprising:

ranking a document based on a feature vector of the document, the feature vector comprising frequency values for one or more terms that appear in the document (Li, page 6, [0067], [0068], "... rank extracted documents based on a vector model ...").

Li does not explicitly disclose sampling user search behavior; and updating the feature vector of the document based on the sampled user search behavior so that the rank of the document is changed based on the user sampled user search behavior. Dutta discloses sampling user search behavior; and updating the feature vector of the document based on the sampled user search behavior so that the rank of the document is changed based on the user sampled user search behavior (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56, "rank search results according to the popularity of the site. The Direct Hit search engine anonymously monitors which web sites Internet searchers select from the search results list, how much time the searchers spend at these

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sites and other metrics. The sites that are selected by searchers are boosted in their ranking, while the sites that are consistently ignored by searchers are penalized in their rankings ...the search results are ordered according to the popularity weight with each file ..."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Dutta with Li in order to rank search results using a popularity weighting.

As per claim 14, Li and Dutta teach all the claimed subject matters as discussed in claim 13, and further disclose generating a sample of the user behavior wherein the sample of the user behavior further comprises a query feature vector of the terms in a particular query and the feature vector of the one or more documents returned based on the query and viewed by the user (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

As per claim 15, Li and Dutta teach all the claimed subject matters as discussed in claim 14, and further disclose generating a sample during a sampling frequency (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

As per claim 16, Li and Dutta teach all the claimed subject matters as discussed in claim 13, and further disclose combining the feature vector of the document with a feature vector of the query, the feature vector comprising frequency values for one or more terms that appear in the query (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

As per claim 17, Li and Dutta teach all the claimed subject matters as discussed in claim 16, and further disclose scaling the query feature vector based on the viewing time of the document by the user during the sampled user behavior to generate a scaled query feature vector (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

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As per claim 18, Li and Dutta teach all the claimed subject matters as discussed in claim 17, and further disclose generating a negative scaling factor in response to a short viewing time so that the scaled query feature vector is negative and the feature vector of the document is reduced and the rank of the document is reduced (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

As per claim 19, Li and Dutta teach all the claimed subject matters as discussed in claim 17, and further disclose generating a positive scaling factor in response to a long viewing time so that the scaled query feature vector is positive and the feature vector of the document is increased and the rank of the document is increased (Dutta, Fig. 1-4, col. 1, line 66 – col. 2, line 56).

Claims 20-26 are rejected on grounds corresponding to the reasons given above for claims 13-19.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee et al. (Pub. No. : US 2001/0003185 A1) disclose method for updating multimedia feature information.

Warner et al. (6,434,550 B1) disclose temporal updates of relevancy rating of retrieved information in an information search system.

Diamond (6,269,368 B1) discloses information retrieval using dynamic evidence combination.

Cohen (6,067,539) discloses intelligent information retrieval system.

Wolff (5,847,708) discloses method and apparatus for sorting information.

Ma et al. (6,347,313 B1) disclose information embedding based on user relevance feedback for object retrieval.

Bharat et al. (6,411,952) disclose method for learning character patterns to interactively control the scope of a web crawler.

Liddy et al. (6,006,221) disclose multilingual document retrieval system and method using semantic vector matching.

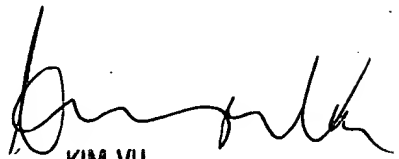
Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (703) 305-8319. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703)305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

CC
May 5, 2003


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100